

WHAT IS CLAIMED IS

1. An organic electro-luminescence (EL) device, comprising:

a substrate;

5 a plurality of first electrodes formed on the surface of said substrate;

a plurality of divisions of organic layer, formed on said first electrodes and being superimposed perpendicularly upon said first electrodes, said organic layer comprising at least one organic EL layer;

a plurality of second electrodes, formed on said organic layer;

10 a plurality of bottom insulating pads, each disposed between said divisions of said organic layer; and

a plurality of heat sinks, each disposed on one of said bottom insulating pads.

15 2. The organic EL device as recited in claim 1, wherein the thickness of said bottom insulating pads is larger than that of said organic layer.

3. The organic EL device as recited in claim 1, wherein a protective layer is provided on the surface of said device.

20 4. The organic EL device as recited in claim 3, wherein said bottom insulating pads are formed by using an insulating material with moisture absorption function.

5. The organic EL device as recited in claim 1, wherein a insulating stripe is formed on each of said heat sinks, wherein the width of said insulating stripe is larger than said heat sink and thus overhanging portions are formed.

6. The organic EL device as recited in claim 5, wherein the width of said organic layer is larger than the distance between two of said overhanging portions.

7. The organic EL device as recited in claim 6, wherein the width of said second electrodes is smaller than that of said organic layer.

8. The organic EL device as recited in claim 3, wherein a moisture absorber comprising a material with moisture absorption function is provided between each of said bottom insulating pads and each of said heat sinks.

9. The organic EL device as recited in claim 8, wherein there is space formed between said organic layer, said moisture absorber, said second electrode and said protective layer to achieve dehumidification function.

10. The organic EL device as recited in claim 1, wherein said the heat sinks are formed in a trapezoid shape, with a wider top side and a narrower bottom side.

11. The organic EL device as recited in claim 1, wherein said organic layer is one of a red light emitting organic layer, a green light emitting organic layer, a blue light emitting organic layer and their combination.

12. The organic EL device as recited in claim 1, wherein said heat sinks are formed by using a material with high thermal conductivity such as metals.

13. The organic EL device as recited in claim 5, wherein the width of said bottom insulating pads is larger than that of said heat sinks.

14. The organic EL device as recited in claim 13, wherein the width of said organic layer and said second electrode is equal to the distance between two of said bottom insulating pads.

15. The organic EL device as recited in claim 13, wherein the thickness of said organic layer is smaller than that of said bottom insulating pads.

5 16. The organic EL device as recited in claim 13, wherein said bottom insulating pads comprise an insulating material with moisture absorption function.

17. The organic EL device as recited in claim 10, wherein the width of said bottom insulating pads is larger than that of bottom side of said heat sinks.

10 18. The organic EL device as recited in claim 17, wherein the width of said organic layer and said second electrode is equal to the distance between two of said bottom insulating pads.

15 19. The organic EL device as recited in claim 18, wherein said bottom insulating pads comprise an insulating material with moisture absorption function.

20. An organic EL device, comprising:

a substrate;

a plurality of first electrodes formed on the surface of said substrate;

20 a plurality of divisions of organic layer, formed on said first electrodes and being superimposed perpendicularly upon said first electrodes, said organic layer comprising at least one organic EL layer;

a plurality of second electrodes, formed on said organic layer;

25 a plurality of bottom insulating pads, each disposed between said divisions of said organic layer;

a plurality of moisture absorbers, each disposed on one of said bottom insulating pads; and

a protective case, for sealing said device.

21. The organic EL device as recited in claim 20, wherein said
5 moisture absorbers are formed in a trapezoid shape, with a wider top side and a narrower bottom side.

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